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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/526,833

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Jusheng Wu

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LIN & ASSOCIATES INTELLECTUAL PROPERTY, INC.

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EXAMINER

KWIECINSKI, RYAN D

ART UNIT

PAPER NUMBER

3635

NOTIFICATION DATE

DELIVERY MODE

03/25/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/526,833	<b>Applicant(s)</b> WU ET AL.	
	<b>Examiner</b> RYAN D. KWIECINSKI	<b>Art Unit</b> 3635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/13/2005</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Specification*

**The disclosure is objected to because of the following informalities:**

35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are:

**Page 8, line 17**, "sheet1" should be --sheet 1--.

**Page 9, lines 6,7,8**, "sheet2", "Fig2", and "component 6", should be --sheet 2--, --Fig.2--, and --component 6--.

Appropriate correction is required.

### *Claim Objections*

**Claims 1, 6-14, and 16-18 are objected to because of the following informalities:**

**Claim 1**, the words used in the method steps such as "apply", "place", "cover" should be replaced by the action verbs --applying--, --placing--, and --covering--.

**Claim 1, line 6**, the recitation "on surface of planar glass sheet" should read --on a surface of planar glass sheet--.

**Claim 1, line 9**, “support means” should be --said support means-- or --the support means--.

**Claims 6 and 16, line 2**, “said non-organic material” is vague, indefinite, and confusing as lacking antecedent basis. The recitation should read --said non-organic solution--.

**Claim 7, line 3**, insert --a--before top and --an--before intermediate.

**Claim 8, line 2**, it is recommended the claim read similar to the following (i.e. said heating step comprising oven drying or sintering).

**Claim 9, line 2**, insert --a--before seal.

**Claim 10, line 3**, the recitation “the top portion” appears it should read --the top portion--. “The top portion” is lacking antecedent basis.

**Claim 11, line 2**, “said upper support means” is lacking antecedent basis in claim 9.

**Claim 12, line 2**, “more than two upper support means” is lacking antecedent basis in claim 9.

**Claim 12, line 3**, “on surface” should read --on a surface--and “on upper surface” should read --on an upper surface--.

**Claim 13, lines 4 and 5**, the recitations “at side surface” and “at upper end portion” should read --at a side surface-- and --at an upper end portion--.

**Claim 14, line 3**, insert --an--before “organic” and --a--before “non-organic”.

**Claim 18, line 1**, the preamble of the claim does not coincide with the preamble of the claim from which claim 18 depends.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph**, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Claims 1 and 2, lines 6 and 3 respectively**, the recitation “surface of planar glass sheet” is unclear which planar glass sheet the Applicant is referring to. Is the layer applied to either of the sheets? a specific sheet? or both of the sheets?

**Claim 2, line 5**, “having various specific functions” is vague, indefinite, and confusing. It is unclear to what the various functions of the glass panel are and if the functions have an affect on the structure of the glass panel.

**Claim 7, line 2**, “said planar sheet” is unclear which planar sheet the Applicant is referring to. Is the layer applied to either of the sheets? a specific sheet? or both of the sheets?

**Claim 9** recites the limitation “the surface of bottom planar glass sheet” and “the cavity” in lines 5 and 6. There is insufficient antecedent basis for this limitation in the claim.

**Claim 10** recites the limitation “the upper surface of said top planar glass sheet” in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.\

**Claim 14, line 4**, the recitation “locates surface” is vague and unclear. The grammar of the claim must be corrected.

**Claim 17**, the entire claim is filled with grammatical errors deeming the claim vague, indefinite, and unclear. It is extremely unclear as to what the Applicant is reciting in the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-4, 8-9, 11-14, and 17-18 are rejected as best understood under 35 U.S.C. 102(b) as being anticipated by US 6,479,112 B1 to Shukuri et al.**

#### **Claims 1-4 and 8:**

Shukuri et al. disclose a method of fixing support means disposed within an evacuated glass panel (Fig.10), said evacuated glass panel includes at least two planar glass sheets (1A, 1B, Fig.10) having any shape and support means (3, Fig.10), disposed therein characterized in that said method comprising at least the following steps of:

applying a solution layer (7, Fig.14) on a surface of a planar glass sheet, on which the support means is disposed, secondly, placing the support means on said

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solution layer (Column 11, lines 31-45), at least, covering the upper surface of the support means with a planar glass sheet (Fig.10), and heating said solution layer to dry, so as to fix said support means between planar glass sheets (Column 12, lines 1-10);

wherein said drying manner is oven drying (Column 11, lines 30-35);

wherein the solution layer partly covers the planar glass sheets (Fig.14) surface on which the support means is disposed;

wherein the solution layer is applied by way of printing (Column 11, lines 10-15);

wherein the solution layer is an inorganic solution layer (Column 11, line 1).

**Claim 9, 11-12, 14, and 17-18:**

Shukuri et al. disclose an evacuated glass panel (Fig.10), comprising a top planar glass sheet (1B, Fig.10), a bottom planar glass sheet (1A, Fig.10), support means (3, Fig.10), and a seal component (6, Fig.10) around the periphery of planar glass sheet, wherein said support means is disposed between the top and bottom planar glass sheets (3, Fig.10); said support means is adhered to the surface of the bottom planar glass sheet through residual solution layer (7, Fig.14); the cavity between top and bottom planar glass sheet is an evacuated space (Column 10 ,lines 60-61);

wherein said support means is a solid pillar (Fig.2-8);

wherein said support means is more than one support means (3, Fig.10), uniformly disposed (Fig.10) on the surface of the bottom planar glass sheet;

wherein said residual solution layer is an adherent layer formed after volatilization of a non-organic solution (7, Fig.14); said adherent layer partly covers the surface of the bottom planar glass plate (7, Fig.7);

wherein said seal component (6, Fig.10) is used to vertically seal the edge of the planar sheets about the periphery of the planar glass sheets;

wherein said seal component is a glass strip (Column 10, lines 30-32).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 5-6 and 15-16 are rejected as best understood under 35 U.S.C. 103(a) as being unpatentable over US 6,479,112 B1 to Shukuri et al. in view of US 6,365,242 B1 to Veerasamy.**

#### **Claims 5-6 and 15-16:**

Shukuri et al. disclose the method of claim 4 and the glass panel of claim 14, but does not directly disclose wherein said organic solution is rosin spirits and said non-organic solution is indium oxide.



Veerasamy does not directly disclose using the rosin spirits or the indium oxide as solution layers for the support means but does disclose using these solutions to aid in the hermetic sealing and bonding process of the peripheral seal of the glass panel.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the organic and non-organic solutions of Veerasamy to fix the support means of the glass panel of Shukuri et al. to the upper surface of the bottom glass panel. The materials are known solutions that help in the bonding of the glass materials to one another in order to form a secure bond.

**Claims 7 and 10 are rejected as best understood under 35 U.S.C. 103(a) as being unpatentable over US 6,479,112 B1 to Shukuri et al. in view of US 5,270,084 to Parker.**

**Claims 7 and 10:**

Shukuri et al. disclose method of claim 1 and the glass panel of claim 9 but does not disclose the planar sheet on which the support means is disclose to be a top sheet or an intermediate sheet.

Parker discloses three layers of planar glass sheets with intermediate sheet (A, Fig.6) having support means disposed on both sides in both cavities (23,25, Fig.6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the glass panel of Shukuri et al. with three planar glass sheets in order to enhance the thermal and heat transfer properties of the glass

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panel. It is notoriously well known that the thermal properties increase as another sheet of glass as well as another evacuated cavity is formed in the overall glass panel.

**Claims 11 and 13 is rejected as best understood under 35 U.S.C. 103(a) as being unpatentable over US 6,479,112 B1 to Shukuri et al. in view of US 5,270,084 to Parker in view of US 5,512,341 to Newby et al.**

**Claim 11 and 13:**

Shukuri et al. in view of Parker et al. disclose the glass panel of claims 9 and 10, Shukuri discloses said support means is a hollow pillar, but does not disclose the hollow pillar has a hole in a side surface of the pillar.

Newby et al. disclose a hollow support means (6, Fig.2) with a hole (16, Fig.2) in a side surface.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the glass panel of Shukuri et al with hollow support means with a hole in the side of the support means in order to connect the interior hollow portion with the cavity of the glass panel. The hole allows the support means to be filled with desiccant which will ensure the evacuated cavity remains moisture free. It is notoriously well known to include support means in the inter cavities of glass panels which have an interaction with the cavity in order to provide materials such as desiccants.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN D. KWIECINSKI whose telephone number is (571)272-5160. The examiner can normally be reached on Monday - Friday from 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Canfield can be reached on (571)272-6840. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RDK

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